

Amendment and Response
Applicants: Garland L. Segner et al.
Serial No.: 10/632,145

Attorney Docket: EV31008US

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application.

1. (Currently amended) A guide wire comprising:

an elongate, flexible core having a proximal region, a proximal end, a distal region, and a distal end, and the distal region having a tapered portion;
a single coil comprising 3 to 24 wire strands, each of the 3 to 24 wire strands being formed in a single helix and wrapped helically parallel to one another to thereby form the single coil, the single coil having a longitudinal central axis and an interior, and disposed on at least a portion of the tapered distal region of the core being disposed within the interior of the single coil;

a polymer tie layer disposed on at least a portion of the plurality of wire strands; and

a lubricious polymer layer disposed on the polymer tie layer, and wherein the wire strands wrapped helically parallel to one another form a stranded tubular structure having a longitudinal central axis, and wherein the angle between the wire strands and the longitudinal central axis is from 10 to 45 degrees.

2. (Original) A guide wire of claim 1, wherein the polymer tie layer is disposed on the entire distal end of the guide wire.

3. (Withdrawn) A guide wire of claim 1, wherein the guide wire further comprises a coil disposed at the distal end.

4. (Withdrawn). A guide wire of claim 3, wherein at least a portion of the coil is not covered by the polymer tie layer.

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5. (Withdrawn) A guide wire of claim 1, wherein the guide wire further comprises a radiopaque tip disposed at the distal end.

6. (Withdrawn) A guide wire of claim 5, wherein the radiopaque tip comprises a polymer containing radiopaque material.

7. (Currently amended) A guide wire of claim 1, wherein the polymer tie layer provides the only form of attachment between the plurality of wire strands and the core.

8. (Currently amended) A guide wire of claim 1, wherein the plurality of wire strands are attached to the core by one or more solders, welds, swaging tubes, or adhesives.

9. (Original) A guide wire of claim 1, wherein the guide wire has a distal end and the core extends to the distal end of the guide wire.

10. (Withdrawn) A guide wire of claim 1, wherein the guide wire has a distal end and the core does not extend to the distal end of the guide wire.

11. (Withdrawn, currently amended) A guide wire of claim 1, wherein the plurality of wire strands ~~has a distal end have distal ends~~ and the core extends past the distal ~~end~~ ends of the plurality of wire strands.

12. (Original) A guide wire of claim 1, wherein the length of the guide wire is from 30 to 350 cm.

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13. (Original) A guide wire of claim 1, wherein the length of the guide wire is from 150 to 320 cm.

14. (Currently amended) A guide wire of claim 1, wherein the guide wire has an outer diameter of from ~~0.005 to 0.038 inch~~ 0.013 to 0.097 cm.

15. (Canceled).

16. (Withdrawn) A guide wire of claim 1, wherein the guide wire comprises 5 to 8 wire strands.

17. (Currently amended) A guide wire of claim 1, wherein the ~~wires forming the plurality of~~ wire strands have lengths of from 1 to 80 cm.

18. (Currently amended) A guide wire of claim 1, wherein the ~~wires forming the plurality of~~ wire strands have outer diameters of from ~~0.001 to 0.010 inch~~ 0.0025 to 0.025 cm.

19. (Original) A guide wire of claim 1, wherein the tapered distal region of the core has a length of from 5 to 80 cm.

20. (Canceled).

21. (Canceled).

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22. (Withdrawn, currently amended) A guide wire of claim 21 20, wherein the angle between the wire strands and the central longitudinal axis is from 15 to 30 degrees.

23. (Withdrawn, currently amended) A guide wire of claim 20, wherein the entire core is disposed within the ~~stranded tubular structure~~ interior of the single coil.

24. (Currently amended) A guide wire comprising:
an elongate, flexible core having a proximal region, a proximal end, a distal region, and a distal end, and the distal region having a tapered portion;
a single coil comprising 3 to 24 wire strands, each of the 3 to 24 wire strands being formed in a single helix and wrapped helically parallel to one another to thereby form the single coil, the single coil having a longitudinal central axis and an interior, and disposed on at least a portion of the tapered distal region of the core being disposed within the interior of the single coil; and
a polymer tie layer disposed on at least a portion of the plurality of wire strands,
wherein the polymer tie layer provides the only form of attachment between the plurality of wire strands and the core, and
wherein the wire strands wrapped helically parallel to one another form a stranded tubular structure having a longitudinal central axis, and wherein the angle between the wire strands and the longitudinal central axis is from 10 to 45 degrees.

25. (Original) A guide wire of claim 24, wherein the polymer tie layer is disposed on the entire distal end of the guide wire.

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26. (Withdrawn, currently amended) A guide wire of claim 24, wherein the guide wire further comprises a second coil disposed at the distal end.

27. (Withdrawn, currently amended) A guide wire of claim 26, wherein at least a portion of the second coil is not covered by the polymer tie layer.

28. (Withdrawn) A guide wire of claim 24, wherein the guide wire further comprises a radiopaque tip disposed at the distal end.

29. (Withdrawn) A guide wire of claim 28, wherein the radiopaque tip comprises a polymer containing radiopaque material.

30. (Original) A guide wire of claim 24, wherein the guide wire has a distal end and the core extends to the distal end of the guide wire.

31. (Withdrawn) A guide wire of claim 24, wherein the guide wire has a distal end and the core does not extend to the distal end of the guide wire.

32. (Withdrawn, currently amended) A guide wire of claim 24, wherein the plurality of wire strands has a distal end have distal ends and the core extends past the distal end ends of the plurality of wire strands.

33. (Original) A guide wire of claim 24, wherein the length of the guide wire is from 30 to 350 cm.

34. (Original) A guide wire of claim 24, wherein the length of the guide wire is from 150 to 320 cm.

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35. (Currently amended) A guide wire of claim 24, wherein the guide wire has an outer diameter of from ~~0.005 to 0.038 inch~~ 0.013 to 0.097 cm.

36. (Canceled).

37. (Withdrawn) A guide wire of claim 24, wherein the guide wire comprises 5 to 8 wire strands.

38. (Currently amended) A guide wire of claim 24, wherein the ~~wires forming the plurality of~~ wire strands have lengths of from 1 to 80 cm.

39. (Currently amended) A guide wire of claim 24, wherein the ~~wires forming the plurality of~~ wire strands have outer diameters of from ~~0.001 to 0.010 inch~~ 0.0025 to 0.025 cm.

40. (Original) A guide wire of claim 24, wherein the tapered distal region of the core has a length of from 5 to 80 cm.

41. (Canceled).

42. (Canceled).

43. (Withdrawn, currently amended) A guide wire of claim ~~42~~ 24, wherein the angle between the wire strands and the central longitudinal axis is from 15 to 30 degrees.

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44. (Withdrawn, currently amended) A guide wire of claim 41 24, wherein the entire core is disposed within the ~~stranded tubular structure~~ interior of the single coil.

45. (Withdrawn, currently amended) A guide wire comprising:
an elongate, flexible core having a proximal region, a proximal end, a distal region, and a distal end, the distal region having a tapered portion, and the tapering region terminating in an enlarged diameter portion;
a single coil comprising 3 to 24 wire strands, each of the 3 to 24 wire strands being formed in a single helix and wrapped helically parallel to one another to thereby form the single coil, the single coil having a longitudinal central axis and an interior, and disposed on at least a portion of the tapered distal region of the core being disposed within the interior of the single coil;
a polymer tie layer disposed on at least a portion of the plurality of wire strands; and
a lubricious polymer layer disposed on the polymer tie layer, and wherein the wire strands wrapped helically parallel to one another form a stranded tubular structure having a longitudinal central axis, and wherein the angle between the wire strands and the longitudinal central axis is from 10 to 45 degrees.

46. (Withdrawn, currently amended) A guide wire comprising:
an elongate, flexible core having a proximal region, a proximal end, a distal region, and a distal end, and the distal region having a tapered portion;
a single coil comprising 3 to 24 wire strands, each of the 3 to 24 wire strands being formed in a single helix and wrapped helically parallel to one another to thereby form the single coil, the single coil having a longitudinal central

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axis and an interior, and disposed on at least a portion of the tapered distal region of the core being disposed within the interior of the single coil; and

a polymer tie layer disposed on at least a portion of the plurality of wire strands,

wherein the core comprises at least two separate members, and

~~wherein the wire strands wrapped helically parallel to one another form a stranded tubular structure having a longitudinal central axis, and wherein the angle between the wire strands and the longitudinal central axis is from 10 to 45 degrees.~~

47. (Withdrawn) A guide wire of claim 46, wherein at least two of the separate members overlap.

48. (Currently amended) A guide wire comprising:

an elongate, flexible core having a proximal region, a proximal end, a distal region, and a distal end;

a single coil comprising 3 to 24 wire strands, each of the 3 to 24 wire strands being formed in a single helix and wrapped helically parallel to one another to thereby form the single coil, the single coil having a longitudinal central axis and an interior, and the single coil being disposed distal to the distal end of the elongate, flexible core; and

a polymer tie layer disposed on at least a portion of the plurality of wire strands and at least a portion of the elongate, flexible core, and

~~wherein the wire strands wrapped helically parallel to one another form a stranded tubular structure having a longitudinal central axis, and wherein the angle between the wire strands and the longitudinal central axis is from 10 to 45 degrees.~~

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49. (Withdrawn, currently amended) A guide wire comprising:
an elongate, flexible core having a proximal region, a proximal end, a distal region, and a distal end, and the distal region having a tapered portion;
a single coil comprising 3 to 24 wire strands, each of the 3 to 24 wire strands being formed in a single helix and wrapped helically parallel to one another to thereby form the single coil, the single coil having a longitudinal central axis and an interior, and disposed on the entire core being disposed within the interior of the single coil, and
wherein the plurality of wire strands wrapped helically parallel to one another form a stranded tubular structure having a longitudinal central axis, wherein the entire core is disposed within the stranded tubular structure, and wherein the angle between the wire strands and the longitudinal central axis is from 10 to 45 degrees.